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Increasing Access to Pre-Exposure Prophylaxis Among Transgender Women and Transfeminine Nonbinary Individuals

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Abstract

In the United States, transgender women and transfeminine nonbinary individuals (TGWNBI) are a highly vulnerable and marginalized population at high risk for HIV. Despite disproportionate rates of HIV, a striking lack of research exists on pre-exposure prophylaxis (PrEP) use among TGWNBI. We conducted 30 semi-structured interviews with TGWNBI both on PrEP and those not on PrEP. Questions explored PrEP access, initiation, and factors to increase broad interest and participation in PrEP. Qualitative data were coded and analyzed using thematic analysis. Participants identified five components to increase PrEP use among TGWNBI: (1) eliminating the practice of conflating TGWNBI with cisgender men who have sex with men, (2) recognition of and support for the contextual factors associated with HIV risk among TGWNBI, (3) ensuring the design and development of transgender-inclusive and gender-affirming sexual health programs that include PrEP, (4) active provider engagement and assistance around PrEP, and (5) identification and implementation of strategies to bolster existing community mobilization/activism around PrEP.

Keywords: HIV, pre-exposure prophylaxis, PrEP, transgender women, biomedical prevention

Introduction

In the United States, transgender women and nonbinary transfeminine individuals (TGWNBI), that is, (individuals assigned male at birth, but who identify along the feminine spectrum) are a highly vulnerable and marginalized community disproportionately affected by HIV.[1–5] HIV prevalence among TGWNBI is estimated at 14.1%, for laboratory confirmed tests, and 21% for self-reported HIV status,[5] with the highest prevalence found among African American transgender women.[3–6]

Despite disparate rates of HIV infection, the unique HIV risk and prevention needs of TGWNBI have largely been ignored in HIV research and surveillance data. In HIV research, transgender women have historically been included under the behavioral risk group ''men who have sex with men'' (MSM) or are lumped together as a small sample referred to as ''MSM and transgender women.''[7–10] By aggregating TGWNBI with MSM, HIV prevention research has often failed to consider or address the social, emotional, sexual, and physical health needs and contexts of HIV risk specific to this community.[8,10]

Data indicate that TGWNBI experience pervasive stigma and discrimination at the structural, interpersonal, and individual levels, which negatively impact their quality of life and increase risk for HIV.[11–14] Structural level determinants include: racism,[15,16] sexism,[16] lack of social, medical, and legal recognition of gender identity,[13,14] homelessness,[12,17] unemployment,[14] incarceration,[18] lack of health insurance,[13,14,19] and inadequate health care access.[13,14,20,21] Interpersonal level factors include the following: experiences of physical and sexual assault,[22–25] intimate partner violence,[3,26,27] rejection from family and close others,[28,29] and routine discrimination in housing, employment, educational, health care, and social service settings.[13,14,30] Individual level factors include delaying or forgoing preventative, routine, and emergency health care,[13,14] condomless sex,[1,4,5] sex work,[31,32] substance misuse,[33–35] depression,[15] and anxiety.[36]

For TGWNBI, contextual factors associated with stigma and discrimination may pose a greater risk for HIV exposure than individual sexual behavior. However, few studies have examined the relationship between stigma, discrimination, and HIV risk. By failing to address HIV risk within the context of pervasive stigma and discrimination research may

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exacerbate HIV disparities among TGWNBI by creating barriers to HIV prevention services, including pre-exposure prophylaxis (PrEP).

Despite an increase in PrEP uptake across the United States, TGWNBI have been left behind. To date, there has been a lack of research on PrEP use among TGWNBI. This lack of research is particularly concerning in the field of PrEP for two reasons: (1) PrEP is a highly effective method of HIV prevention and (2) TGWNBI are a priority population for whom PrEP initiation and persistence continue to be suboptimal, despite increased PrEP awareness.[2,9,10,37]

A PubMed search found that of the 35 articles published within the past 5 years on PrEP use among transgender women, only six (17%) were based on studies specifically designed to collect data on transgender women (i.e., not as a subsample of a larger MSM study) within the United States,[8,38–42] and of these studies, only two included transgender women on PrEP.[39,42] Studies have consistently found that among PrEP-naive transgender women, acceptability and interest are influenced by low levels of PrEP awareness, concerns about the lack of trans-specific PrEP information and messaging, prioritization of hormone therapy, absence of information on potential drug interactions between PrEP and commonly used feminizing hormones, medication side effects, and medical mistrust.[8,39–42]

In a recent study on PrEP acceptability and uptake among transgender women in Detroit, Michigan,[42] PrEP initiation was influenced by integrating PrEP into existing transgender and gender-affirming health care services at an LGBT community clinic. In addition, two recent studies found primary care providers specializing in transgender health[43] and providers using a client-centered approach, which acknowledge that the needs of transgender women are imperative to the dissemination of PrEP.[44] These few studies provide much needed data on PrEP acceptability and uptake in transgender women. However, to move PrEP implementation forward, more transgender-specific research is needed to identify factors influencing PrEP initiation among TGWNBI, and in particular among TGWNBI on PrEP. The purpose of this study is to assist PrEP implementation efforts by identifying strategies for best practice to increase PrEP access and uptake among TGWNBI.

Methods

Eligibility and recruitment

A total of 30 participants from the following two groups (1) TGWNBI on PrEP ($n = 15$) and (2) TGWNBI not on PrEP ($n = 15$) were recruited to participate in this study. To be eligible individuals had to meet the following criteria: (1) 18 years of age or older; (2) assigned male at birth; (3) identify with a gender different from sex assigned at birth; (4) in the past 6 months had receptive anal or vaginal sex with a cisgender man or transgender woman or meet criteria for PrEP eligibility;[45] (5) live in the NY tri-state area; and (6) self-report PrEP use (PrEP group only). Sample size was chosen based on recommendations for similar qualitative inquiries to ensure thematic saturation[8,16,46] as well as feasibility concerns. Recruitment materials were posted at: (1) community-based health centers, which provide medical and social services to transgender and nonbinary women in New York City, (2) online via Facebook, Twitter, and transgender-inclusive and specific listservs, and (3) word of mouth.

Procedures

Between April 2016 and May 2017, two transgender-identified research team members conducted 30 in-depth, semi-structured interviews, each lasting between 1–1.5 h. Interviews were digitally recorded and contained a core set of questions regarding factors at the structural, interpersonal, and individual level that might influence PrEP access, adoption, adherence, and willingness to use future biomedical PrEP interventions.

Participants on PrEP were asked to discuss any contributing factors that led to their PrEP use and any benefits and challenges experienced since initiating PrEP, including issues around access and adherence. Participants not on PrEP were asked to discuss their knowledge of and attitudes toward PrEP and any factors that contributed to their decision-making around whether to take PrEP. Participants in both groups were asked to discuss factors that would be most important to facilitate broad interest and participation in PrEP. Participants were compensated $40 for their time. The Hunter College Human Research Protection Program Office approved all research procedures.

After interviews were transcribed and verified for accuracy, thematic coding was used, following procedures outlined by Miles and Huberman and Patton.[47,48] For thematic analyses, data were indexed and coded using open and axial coding.[48] Open coding procedures were used to identify emerging themes and factors associated with each research question. Following the development of the codebook, data were coded in Dedoose qualitative software.

Reliability was maintained through the use of two coders. Each interview transcript was double-coded and reviewed by the authors to ensure consistency and code application. Inconsistent application of codes was discussed between the authors and coders and revised until coders maintained 90% agreement. Once the coding scheme captured the themes arising from the transcripts, the synthetic and analytic features of Dedoose were used to facilitate theory building by permitting the examination of overlap between codes to conceptualize and assess hypotheses about the co-occurrence of themes.

Results

Participant characteristics

Demographic characteristics of the sample are presented in Table 1. A majority of participants were younger than the age of 30 (60%, $n = 18$), identified as a person of color (73%, $n = 22$), claimed a binary gender identity (i.e., identified as female, woman, or transgender woman) (93%, $n = 28$), identified as heterosexual/straight (57%, $n = 17$), reported an income of less than $12,000 (87%, $n = 26$), were currently not in the workforce (90%, $n = 27$), and were publicly insured (87%, $n = 26$). PrEP users were more likely to be younger than the age of 30 (73%, $n = 11$) compared to non-PrEP users (47%, $n = 7$).

PrEP eligibility and indications

Table 2 presents PrEP eligibility criteria and indications by group. All participants met at least one of the following PrEP eligibility criteria: (1) condomless anal sex in the past 6

Table 1. Demographics of Sample by Group (*N* = 30)

	Total N = *30* n *(%)*	*No PrEP* n = *15* n *(%)*	*PrEP* n = *15* n *(%)*
Demographics			
Age			
Under 30	18 (60.0)	7 (46.7)	11 (73.3)
30 and older	12 (40.0)	8 (53.3)	4 (26.7)
Gender identity			
Binary	28 (93.3)	14 (93.3)	14 (93.3)
Nonbinary	2 (6.7)	1(6.7)	1 (6.7)
Race/ethnicity			
African American/black	9 (30.0)	6 (40.0)	3 (20.0)
Latina/Hispanic	6 (20.0)	3 (20.0)	3 (20.0)
White–non-Hispanic	8 (26.7)	2 (13.3)	6 (40.0)
Asian/Pacific Islander	4 (13.3)	2 (13.3)	2 (13.3)
Multiracial	3 (10.0)	2 (13.3)	1 (6.7)
Sexual orientation			
Heterosexual/straight	17 (56.7)	10 (66.7)	7 (46.7)
Gay	2 (6.7)	2 (13.3)	0
Bisexual	3 (10.0)	0	3 (20.0)
Queer	6 (20.0)	1 (6.7)	5 (33.3)
Pansexual	2 (6.7)	2 (13.3)	0
Income			
Less than $12,000	26 (86.7)	15 (100.0)	11 (73.3)
$12,000 +	4 (13.3)	0	4 (13.3)
Employment			
In the workforce	3 (10.0)	0	3 (20.0)
Not in the workforce	27 (90.0)	15 (100.0)	12 (80.0)
Health insurance			
Public	26 (86.7)	15 (100.0)	11 (73.3)
Private	4 (13.3)	0	4 (26.7)

PrEP, pre-exposure prophylaxis.

months (93%, $n = 28$), (2) STI diagnosis in the past 6 months (3%, $n = 1$), and/or (3) have an HIV-positive sex partner (20%, $n = 6$). In addition to meeting PrEP eligibility criteria, participants reported other factors that increased risk for HIV infection where PrEP use would be beneficial, including engaging in sexual activity with (1) multiple sex partners (i.e., 2 or more sex partners within the past 6 months) (33%, $n = 10$), (2) a partner with multiple sex partners (30%, $n = 9$), and (3) a partner whose HIV status is unknown (53%, $n = 16$).

Increasing PrEP access and uptake

Thematic analysis identified several factors that may influence PrEP access and uptake among TGWNBI. Five critical components to PrEP implementation emerged from participant's personal experiences accessing sexual health care and HIV prevention services, including (1) eliminating the practice of conflating transfeminine individuals with cisgender men who have sex with men (MSM), (2) recognition of and support for the contextual factors associated with HIV risk for this community, (3) ensuring the design and development of transgender-inclusive and gender-affirming sexual health programs that include PrEP, (4) active provider engagement and assistance around PrEP, and (5) identification and implementation of strategies to bolster existing community mobilization/activism (both informal and structured) around PrEP. The results below represent systems-level changes imperative to reducing the HIV disparities experienced by this community.

Conflation of transgender women with/as cisgender MSM. An important theme to emerge was the extent to which the conflation of transfeminine individuals with cisgender MSM negatively impacts PrEP access and uptake. Forty (40%, $n = 12$) percent of the total sample expressed frustration with being categorized as cisgender MSM within HIV/STI prevention services. Participants described the systemic practice of comparing the transfeminine community with/as cisgender MSM as a refusal to acknowledge and support self-identified gender identity and expression (i.e., the opposite of gender affirmation). The practice of lumping transfeminine individuals with cisgender MSM was credited with negatively affecting patient/provider relationships, as well as health care access and utilization among this community.

> ''Like when I went to a city sexual clinic, they gave me a piece of paper that said are you a man who has sex with men/trans woman. And I literally looked at them and was like: 'Are you comparing a man and a trans woman on this piece of paper? This is completely ridiculous.' When you put man and trans woman together, you're already off the bat saying that these two [are] comparable. I feel like those questions impose transphobic ideas in them and a lot people are not going to want to answer these kinds of questions because, if you answer it, you may be validating this transphobic thing, but if you don't answer it, you might not get the care that you need.'' (On PrEP, 26 yrs old, Latina)

Table 2. Pre-Exposure Prophylaxis Eligibility Criteria and Indications by Group (*N* = 30)

	Total (N = *30)* n *(%)*	*No PrEP* n = *15* n *(%)*	*PrEP* n = *15* n *(%)*
CDC eligibility			
Condomless anal sex in the past 6 months	27 (90.0)	12 (80.0)	15 (100.0)
STI diagnosis in the past 6 months	1 (3.3)	0	1 (6.6)
HIV-positive main sex partner	6 (20.0)	2 (13.3)	4 (26.6)
Any CDC PrEP eligibility criteria (3 criteria above)	30 (100.0)	15 (100.0)	15 (100.0)
Other PrEP indications			
Multiple sex partners	10 (33.3)	4 (26.6)	6 (40.0)
A partner with multiple sex partners	9 (30.0)	3 (20.0)	6 (40.0)
A partner who HIV status is unknown	16 (53.3)	7 (46.6)	9 (60.0)

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This participant's statement illustrates how transphobia is embedded into existing medical care for transgender and nonbinary individuals and the dilemma she faces to receive care. First, she must navigate a system that by design does not legitimize or respect her. Then she must decide between forgoing care altogether or being stigmatized and implicitly condoning this practice to get the health care she deserves. This quotation is a real-world example of how stigma and discrimination impacts health care access and perpetuates medical mistrust within the transgender and nonbinary communities.

Contextual factors, HIV risk, and PrEP. Embedded in participant's narratives was the belief that systemic factors such as racism, transphobia, and sexism were driving HIV risk among transgender women, not solely individual sexual behavior. HIV risk was seen as a negative health outcome forced upon transgender women, rather than resulting from behavioral choice or agency. For example, participants discussed how systemic racism, transphobia, and sexism were associated with persistent employment and housing discrimination within the transfeminine community. Lack of housing and employment opportunities forced transfeminine individuals into situations (e.g., survival sex work) where survival is intrinsically linked to HIV risk. Within this context, participants viewed PrEP as a type of harm reduction, minimizing the negative effects of behavior that is necessary for survival.

> ''A lot of us trans women of color are forced to do survival sex work. I'm not going to say we put ourselves in a risky life, but we're forced to do this. It's survival. PrEP is really important because it's helping us minimize our risk when we do what we do to survive in this cruel world.'' (On PrEP, 24 yrs old, Asian Pacific Islander)

Experiences of sexual violence/sexual assault emerged as another high-risk context, in which HIV risk is externally imposed on transfeminine individuals. Participants said that experiences of sexual assault were not an ''if,'' but a ''when.'' Seventy percent (70%, $n=21$) of the total sample stated that they had been sexually assaulted or raped.

> ''Not every time I have had sex have I been a willing participant. I've been sexually assaulted a few times. I mean, definitely when it happened, one of the first things I worried about was HIV. Now, at least I'm taking PrEP, if, god forbid, it [being sexually assaulted] were to happen again, at least it's one less thing for me to really worry about. You know, because the chance is so miniscule [of getting HIV], if you're taking your PrEP.'' (On PrEP, 34 yrs old, Multiracial)

Transgender-inclusive and gender-affirming sexual health messaging and programs. Overall, 90% of the total sample said that low PrEP uptake among the transfeminine community was due, in part, to a lack of transgender-inclusive and gender-affirming sexual health messaging and programming. To increase PrEP access and uptake participants identified three key components for designing transgender-inclusive and gender-affirming sexual health messaging and interventions: (1) visual representation of the diversity of gender identities and expressions in PrEP messaging campaigns, (2) health education literature that addresses survival sex work and sexual violence, and (3) the development of gender-affirming sexual health assessment tools.

Diverse images

Study participants identified the need for PrEP messaging campaigns to include images representing the diverse gender identities and presentations within the TGWNBI community. A common thread throughout interviews was that many of the transgender women pictured in PrEP and HIV prevention marketing campaigns do not represent the range of gender identities and expressions within the TGWNBI community. The majority of participants (83%, $n=25$) stated that unless you had some personal connection to the transgender women in PrEP marketing ads you would otherwise never know that they were TGWNBI.

> ''A lot of the trans people that they've been using in a lot of these campaigns and stuff have been… Quote, unquote, for lack of a better term, more passable. And that's not always the reality with our community, and that's not always what our community looks like. So, you need people out there to show the diversity, and diversity of presentations. You put it out there front and center, so nobody's mistaking it whatsoever. You need somebody that–I mean, for lack of a better term–isn't afraid of getting spooked by the general public. Somebody who's not afraid to come out and say, ''I'm trans. Hi.'' On the side of a bus. And I think it'd be great to show people at different stages of transition, and different presentations. I think that'd be a good thing to see.'' (On PrEP, 34 yrs old, Multiracial)

Participants believed that prioritizing images of transfeminine individuals who ''pass'' sends an explicit message that this is the group who would most benefit from and are appropriate candidates for PrEP, while at the same time devaluing those who do not.

Survival sex work and sexual violence

Study participants indicated that health education literature and health care provider interactions must openly address survival sex work and sexual violence. For example, non-PrEP users who engaged in survival sex unequivocally said that they did not know if PrEP was right for them due to the language in PrEP health education pamphlets, which do not address engagement in survival/transactional sex.

> ''I don't ever see any information that is about trans women or sex workers—if you're putting yourself at risk every day, is it a benefit to take it, will it help you? The pamphlets I see are really specific to lovers or partners, but what if that's not who you're having sex with?'' (Not on PrEP, 37 yrs old, Latina)

Relatedly, all participants reported experiences with sexual violence and assault. However, participants on PrEP discussed how provider's reluctance to initiate conversations with their transfeminine patients about sexual violence was a missed opportunity to discuss PrEP.

> ''It's absolutely astonishing. I don't know a single trans woman who hasn't been raped–myself included. It just kind of happens, and you just kind of have to deal with it, and that's it. It's amazing. So just right there–you're going to be the victim of violence. You're going to be discriminated against. You just kind of have to mentally get there, figure out ways of coping before it happens. And the doctor should be talking to

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trans patients about this, period. If a doctor's not talking to them about this stuff, the doctor is not doing the job, in my opinion.'' (On PrEP, 38 yrs old, white)

Sexual health assessments

The majority (90%, $n=27$) of the sample stated that their health care provider rarely engaged them in discussions around their sexual health outside of standard HIV risk assessment questions. Participants discussed how current sexual risk questions, such as, ''do you have sex with men, women, or both?'' do not accurately reflect their sexual activity, the context in which they are having sex, the people they are having sex with, and whether these experiences are consensual.

> ''Like no doctor has ever really asked me if my dick still worked or if I could top with it, unless I brought something up about it.'' (On PrEP, 22 yrs old, white)

Active provider engagement and assistance. Active provider engagement and assistance around PrEP emerged as two interrelated factors necessary for increasing PrEP access and uptake among the transfeminine community. Active *engagement* by health care providers was defined as having an ongoing dialogue about PrEP rather than a one-time discussion. It is important to note that 67% ($n=10$) of participants not on PrEP and 53% ($n=8$) of participants on PrEP reported that they had never had a provider initiate a PrEP discussion or offer PrEP to them, highlighting a missed opportunity to directly impact the HIV incidence rates among TGWNBI.

Participants suggested that providers must actively engage in conversations around PrEP by explaining what PrEP is, how it works, dosage and adherence information, and potential side effects. This participant talks about how a lack of provider engagement (i.e., providing PrEP information) was a potential barrier to PrEP uptake for her. She highlights the importance of providing PrEP information in conjunction with asking patients if they want PrEP.

> ''Encouraging doctors or medical providers to specifically ask about PrEP, and maybe even ask it with some information about what PrEP is. When I was asked–I mean I knew what PrEP was, I'd heard of it, but I was just asked if I was interested in PrEP. And so, if I didn't know what it was, I would've just said no, not really knowing what I was being asked.'' (On PrEP, 22 yrs old, white)

Participants also provided suggestions for reaching those deemed most at risk for HIV, which included PrEP-related outreach services to sex workers to increase awareness, knowledge, and uptake. Participants emphasized the importance of low threshold services such as outreach teams and vans to increase awareness and acceptability toward PrEP, specifically among TGWNBI engaging in street-based sex work.

> ''I really like seeing the outreach to cars in the areas, like in the village when they come by. Especially homeless trans women and they hang out on the pier and stuff, they're not taking the time to get checkups. They're focused on surviving first. So, going out to them and doing that outreach I think is an amazing way, because then they're right there.'' (On PrEP, 24 yrs old, Asian Pacific Islander)

Active *assistance* was defined as PrEP navigation services that include help with obtaining/maintaining insurance and other payment options. Reducing the structural barriers of cost and payment, coupled with ongoing offers for PrEP, was an important facilitator to increasing willingness to take PrEP and actual PrEP uptake.

> ''I think it just should be proactively offered in whatever way possible. With as little cost as possible. And I know that there are… Even if you don't qualify for Medicaid or something for whatever reason, or if… Like some people are still on their parents' insurance, and their parents' insurance doesn't cover it, there are programs to relieve the financial burden of getting on PrEP for people who are at highest risk.'' (On PrEP, 29 yrs old, white)

Community mobilization and activism. Finally, strategies to enhance community mobilization/activism emerged as important facilitator to increasing awareness and trust around PrEP. Participants talked about a need for role models within the community who were willing to openly discuss their PrEP use.

> While I was considering if I wanted to take it or not–I was seeing people who were on it talk about it. Like friends of mine who were on it. So, encouraging people to talk about being on it [PrEP] is important. (On PrEP, 22 yrs old, white)

Participants on PrEP indicated that in many cases their first information about PrEP came from friends and not a provider.

> My friend told me about it. She used to do sex education classes for us [her friends]. She taught me about it. She was like, girl, you know, they've got that new PrEP. So, I did some research on it and started taking it from there. (On PrEP, 28 yrs old, African American)

Participants spoke about the impact of friends on their willingness to use PrEP. They indicated that learning about PrEP from someone they trusted, with whom they had established relationship, and who they felt was ''like'' them, opened the door to seek out more information and ultimately get on PrEP. Mirroring this sentiment, PrEP users also discussed a sense of responsibility to educate their friends about PrEP.

> I tell my friends about PrEP, because I want them to know about it. I don't want my friends to be walking around here, and they have the opportunity to be prevented from getting HIV–I want them to know about the PrEP, so it can prevent them, especially when you like to do it raw. You need to be on the PrEP. But I encourage them to use protection. But I prefer them to use the PrEP, because they can protect themselves from the HIV. (On PrEP, 28 yrs old, African American)

These findings highlight the importance of community role models, trust, and responsibility in increasing PrEP uptake. Having friends, (especially other TGWNBI) openly talk about their PrEP use and actively encourage their friends to go on PrEP increased awareness and reduced PrEP-related stigma. Seeing other TGWNBI on PrEP gave participants the chance to envision that PrEP might be right for them. A personal connection to someone on PrEP offered first-hand information about side effects, efficacy, and adherence allowing participants to build trust around PrEP.

Participants expressed an overwhelming sense of community responsibility to change the social and cultural norms around HIV risk and PrEP use among TGWNBI by openly sharing their experience with others. In a community that has historically been marginalized and where medical mistrust stems from ongoing experiences of stigma and discrimination within health care settings, supporting community mobilization efforts (both informal and structured) may be key to increasing PrEP uptake.

Discussion

Despite disproportionate rates of HIV infection among the TGWNBI community, evidence-based PrEP information and implementation efforts are lacking. This study identified five key components that can increase PrEP access and uptake among TGWNBI. First, HIV prevention and sexual health messaging and programs must be inclusive and affirming of diverse gender identities and bodies. Participants explicitly stated that the first step to making HIV prevention policies and programs more inclusive is eliminating the practice of categorizing TGWNBI with cisgender MSM. Categorizing TGWNBI as cisgender MSM conveys and reinforces several beliefs, including (1) TGWNBI are in fact men, (2) self-identified gender identity is not important to understanding sexual health and risk, and (3) the sexual practices and experiences of TGWNBI are inherently the same as cisgender men who have sex with men.[7,8]

A lack of transgender-specific and inclusive PrEP programming ignores the specific HIV risk and sexual health needs of this community and forces TGWNBI to seek out PrEP within a system that—by design—is not affirming of self-identified gender identity. Devaluing and ignoring self-identified gender identity within HIV research may even exacerbate the HIV disparities experienced by TGWNBI.

Second, HIV prevention interventions for TGWNBI must acknowledge and address the contextual factors associated with increased HIV risk for this community, rather than focusing solely on individual sexual behavior. These results illuminate a lack of attention to and interest in the specific sociocultural and syndemic factors associated with HIV risk among TGWNBI.[15,16,20,22,25,49,50]

Participants explained that systemic factors such as racism, transphobia, and sexism were more strongly linked to their HIV risk, compared to their individual sexual behavior. The majority of participants rejected the belief that TGWNBI *chose* to put themselves in risky situations and agreed that this frame places blame on the individual rather than acknowledging the structural and interpersonal factors contributing to HIV risk. In an attempt to reduce the consequences of stigma and social oppression (e.g., housing and employment discrimination), participants reported that they are sometimes forced into high-risk contexts (e.g., survival sex work).[31] It is within these high-risk contexts that HIV risk behaviors (e.g., condomless sex) occur.[1,4,5] In this context, risk is seen as an ongoing part of survival for TGWNBI, and PrEP is a form of harm reduction that minimizes the risk associated with survival, giving women agency over their sexual health.

Third, our findings suggest that inclusive and affirming PrEP programs must include sexual health messaging, educational information, and assessment tools that accurately reflect the (1) diverse gender and sexual identities and expressions of TGWNBI and their sexual partners, (2) sexual activity TGWNBI are engaging in, and (3) high-risk contexts where HIV risk increases. For example, PrEP advertising and health information campaigns must include TGWNBI with diverse gender presentations rather than prioritizing TGWNBI who ''pass.'' Participants stated that to increase willingness to take PrEP, TGWNBI should be able to see themselves reflected in current messaging campaigns. Without diverse representation, many TGWNBI may not know that PrEP is right for *them*.

Fourth, these data illustrate how active provider engagement and assistance around PrEP are integral to increasing PrEP access and uptake among TGWNBI. Active provider engagement included not only the act of telling patients about PrEP, but also giving detailed health education information (e.g., efficacy, dosage/frequency, side effects, drug-to-drug interactions) to help patients make informed decisions about whether to take PrEP. For patients who were hesitant about taking PrEP, active provider engagement included having ongoing conversations about PrEP availability and benefits over multiple clinical encounters. An important factor to active provider engagement is the extent to which conversations about PrEP were built into participant's ongoing gender affirming health care rather than requiring TGWNBI to seek out PrEP-related care separately.

Another aspect of active engagement is the creation of PrEP-related outreach services to reach TGWNBI who would most benefit from PrEP (e.g., street-based sex workers, homeless youth, and young adults). These low-threshold services are a way to leverage PrEP to increase overall access to and utilization of health care and other support services to TGWNBI who must prioritize survival over attending regular medical appointments. Study findings highlight the extent to which active payment assistance includes helping patients understand whether current health insurance covers PrEP, assistance with signing up for health insurance that will cover PrEP or apply for a medication payment assistance program associated with a pharmaceutical company.

Fifth, our results indicate that community mobilization/activism strategies are important facilitators to increase PrEP knowledge and uptake among TGWNBI. Having community members openly talk about their PrEP use and knowing friends on PrEP enhanced participants' willingness to take PrEP. Once on PrEP, participants expressed a sense of responsibility to help reduce HIV infection rates among TGWNBI by sharing their PrEP knowledge with friends and other community members to increase PrEP uptake. To support these strategies, providers must acknowledge and support the role of friends and community in the dissemination of PrEP information.

There are several notable limitations to the present study. First, this study utilized an exploratory qualitative research design, which relied on a small convenience sample recruited in New York City. There have been considerable efforts to increase awareness and uptake of PrEP in New York at both the state and city level, thus limiting the transferability of these findings. While the recruitment strategy targeted TGWNBI through multiple avenues (social media, in person flyers at CBO's for TGWNBI, and word of mouth), it is possible that TGWNBI who did not know or had not heard of PrEP self-selected out of participation, skewing the sample toward TGWNBI engaged in health care.

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Second, because all participants were insured (public or private health insurance) and the vast majority received gender-affirming health care, study findings may not apply to TGWNBI outside of a large urban area where there is access to expanded Medicaid and transgender-related health care. Given the disparities in access to health care and insurance among transgender and nonbinary individuals across the United States, these findings may be different among a national sample of TGWNBI.[14,19]

Third, the eligibility criteria for study participation were based on the CDC's PrEP guidelines for MSM. The lack of PrEP guidelines specific to the factors associated with HIV risk for transgender and nonbinary women is a significant barrier to PrEP uptake and access. It is possible that by using the CDC's PrEP eligibility criteria for MSM, the study findings do not adequately represent the diversity of sexual experience and HIV risk behaviors among this community. It is important to acknowledge that these limitations do not detract from the important findings generated by this study. The results presented throughout provide a nuanced interpretation of HIV risk and PrEP use among TGWNBI. Moreover, these results have the potential to significantly reshape the design, development, and implementation of HIV prevention programs and strategies, at a time when such data are needed.

Despite these limitations, this study identified five critical factors that could be implemented at the institutional level to increase PrEP access and uptake among TGWNBI. These results also suggest that initiatives to increase PrEP uptake among TGWNBI will be hindered without specific guidelines for PrEP dissemination to this high-priority population. To increase PrEP knowledge, uptake, and access, HIV prevention funding must be allocated to the development and design of programs and prevention strategies specific to and inclusive of TGWNBI.

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Author Disclosure Statement

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